RENEWABLE ENERGY ASSISTANCE PACKET

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LOCAL GOVERNMENT COMMISSION

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Stimulating Public-sector Implementation of Renewable Energy (SPIRE) Program
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INTRODUCTION

When it comes to energy, California's local governments have been innovators for a long time. With electricity and natural gas price spikes and mounting evidence of global climate change, cities, counties, and other local agencies can play a large role in fostering creative solutions that reduce costs, boost reliability, and shrink the environmental footprints linked to energy production and consumption.

One strategy is through distributed renewable energy systems, which growing numbers of local governments are installing in response to a variety of state financial incentives. These rebates can cover up to half of the installation costs of a new solar photovoltaic (PV), wind, solar thermal, or fuel cell system. For perhaps the first time in California history, a combination of rebate incentives, low-interest financing, and innovative procurement strategies make distributed generation, combined with energy efficiency measures, a cost-effective option for the public sector. Distributed generation can benefit communities in many ways, including:

- Stabilizing long-term energy prices and reducing future fossil fuel price risks for public facilities;
- Ensuring a reliable supply of energy;
- Budgeting for fixed energy costs;
- Guiding and attracting economic development;
- Reducing the need for large, central power plants;
- Improving air quality;
- Off-setting peak load demand; and
- Contributing toward diversification of the state-wide energy portfolio.

A World Wildlife Fund study released in October 2001 indicates that energy efficiency policies and development of renewable energy resources could result in 750,000 new jobs nationwide over the next nine years and 1.3 million jobs by 2020. According to the study "**Clean Energy: Jobs for America's Future**" the U.S. Gross domestic product (GDP) would also increase by $23 billion by 2010 and continue to grow under such conditions. Clearly, renewable technologies have an important role to play in our national and state economies.

Renewable technologies play a critical role in reducing peak-load demand to keep the lights on in California. Public facilities – specifically those with flat or south-facing rooftops – make especially good host sites for PV systems. A study conducted by the Department of Energy's National Renewable Energy Laboratory (NREL) for the Local Government Commission in October 2000 revealed that California's cities and counties have the potential to generate nearly 200 megawatts (MW) of PV, while California's public school rooftops could produce 1,500 MW. This is roughly equivalent to the electricity required for 1.5 million homes. (To view a copy of the report, visit http://www.lgc.org/spire.) Recognizing this potential, the Local Government Commission launched the Stimulating Public-sector Implementation of Renewable Energy (SPIRE) program in August 2001 under a grant from the California Energy Commission's (CEC) Renewable Energy Consumer Education Program. SPIRE is able to provide support to local governments, schools and special districts pursuing renewable energy as part of their smart energy planning. The program focuses on PV as the most widely applicable

technology currently available to the public sector. PV technology is discussed in greater detail in the CEC's "Solar Photovoltaics" fact sheet — available in **Appendix A** and at http://www.energy.ca.gov/renewables/marketing/2000-05_PV_FACTS.PDF.

The *Renewable Energy Assistance Packet* is designed to help California local governments, schools and special districts with the implementation of renewable energy. This document summarizes the rebate incentives, financing opportunities, procurement options and technical assistance that is available to the public-sector, and wherever possible, gives contact information for individuals and organizations that may be of assistance.

The *Assistance Packet* will be continually updated as additional rebates, financing, and procurement resources are identified. **Updates of the *Assistance Packet* will be available at http://www.lgc.org/spire.**

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LOCAL POLICIES SUPPORTING RENEWABLE ENERGY

Local government is well-positioned to encourage residents and local businesses to generate a portion of their own power from clean, renewable sources. In light of the State's energy crisis and threats to community security, it is essential for local government to enact policies that support clean, distributed generation to increase capacity for locally-generated electricity. By functioning as an enabler, rather than a regulatory barrier, local government can help off-set peak load demand and contributes to diversification of the state-wide energy portfolio — both of which increase reliable supply and help stabilize energy prices. Further, by diversifying and decentralizing electrical generation, communities are inherently more sustainable and therefore less susceptible to security threats.

In the November/December issue of *Currents*, the Local Government Commission reported on municipalities that have enacted policy to support distributed renewable energy systems. For example, Alameda and Marin Counties and the cities of Oakland, San Jose and Santa Monica have passed emergency measures to reduce the cost and time involved with siting PV and wind systems.

Enacted in May, the City of Oakland's new emergency ordinance limits review of solar PV and small wind turbine applications to five days and waives application fees that can range from $397 to $1,088.

San Diego County has also streamlined the permitting process for solar PV systems, waiving a $100 application fee and eliminating other costly paperwork burdens. These changes in San Diego County regulations are predicted to increase the number of solar permits from a dozen annually to 250 this year and perhaps as many as 1,000 annually.

Marin County's new Building Energy Efficient Structures Today (BEST) program provides technical assistance, fee reductions, expedited permitting and rebates *in addition* to the State incentive program to encourage efficiency and renewable on-site generation.

At minimum, local government should identify the permit approval process for renewable energy and educate staff to that end. As long as systems are designed in compliance with all applicable building and electrical codes, the building department should not serve as a regulatory barrier to self-generation. Recently passed legislation will make it illegal to deny a permit for a small wind system after July, 2002. **AB 1207 mandates that if local governments fail to adopt wind power-friendly ordinances by July 1, 2002, a default ordinance takes effect that fast-tracks approval of a small wind turbine that meets a variety of conditions.** Similarly, the California Solar Rights Act of 1978 precludes legislative bodies, including those of chartered cities, from enacting ordinances restricting or prohibiting the use of solar energy systems, other than for health and safety purposes.

LGC is collecting copies of codes and ordinances that support renewable energy and can make copies of selected documents available. The California Energy Commission's "Guide to Photovoltaic System Design and Installation" provides information that may be helpful in educating staff to facilitate permit approval (available at http://38.144.192.166/reports/2001-09-04_500-01-020.PDF). In addition, the National Electric Code addresses PV installation.

ECONOMICS OF RENEWABLE ENERGY

A combination of state rebate incentives, low-interest financing and smart procurement strategies can help make renewable, distributed generation — especially when combined with energy efficiency measures — a cost-effective option for the public sector's energy needs. Investing in renewable energy sources can guarantee stable, long-term energy prices and supply while helping to budget for fixed energy costs. For a limited time, local governments, schools and special districts can substantially cut their energy costs by taking advantage of these unprecedented rebate incentives and financing opportunities – some municipalities can even save money from the first day of installation.

REBATE INCENTIVES

For the first time in California history, utility customers have access to cash incentives for distributed energy systems that can total up to half the cost of a solar photovoltaic (PV), small wind turbine, fuel cells, or solar thermal system. The California Energy Commission (CEC) and investor-owned utilities (IOUs) are offering rebates that cover up to 50% of system costs to a maximum of $4.50/watt. Systems installed in the jurisdiction of an IOU — including Pacific Gas & Electric, San Diego Gas & Electric, Southern California Edison, or the Southern California Gas Company — as well as the California Municipal Electric Utilities are eligible. Individual municipal utilities, including Roseville Electric Utility, Redding Electric Utility, Pasadena Water and Power, Los Angeles Department of Water and Power, and Silicon Valley Power — are offering rebates to their customers. Check with your local utility provider for details. For a list of rebate incentives and amounts, visit The California Solar Center at http://www.californiasolarcenter.org/incentives.html. The Database of State Incentives for Renewable Energy (DSIRE) is a comprehensive source of information on state, local, and utility incentives throughout the nation. The database is available on line at http://www.dsireusa.org.

California Energy Commission's Emerging Renewable Technology Buy-Down Account

Rebates through the CEC are divided into two accounts: small systems of 10 kW or less and medium to large systems greater than 10kW. Rebates are available for PV, small wind turbines, solar thermal, and fuel cell technologies, and cover up to 50% of system costs to a maximum of $4.50/watt. In January 2002, the CEC announced an additional $8 million in rebates available to customers of Municipal Electric Utilities for photovoltaic projects under 10 kW. Check with the CEC to verify that funding is available in the account that matches the size of your system. For more information about the CEC's Buy-Down Rebate, refer to the CEC's "Generate Your Own Electricity and Save" brochure— available in **Appendix B** and at http://www.energy.ca.gov/renewables/marketing/2001-03_BUYDOWN_FLYER.PDF. The CEC's Guidebook for the Renewable Energy Buy-Down Program is available at http://www.energy.ca.gov/renewables/documents/BUYDOWN_GUIDEBOOK, or by calling 800-555-7794.

Self-Generation Incentive Program

As part of California Assembly Bill 970, the California Public Utilities Commission (CPUC) approved a Self-Generation Program on March 27, 2001. This program provides monetary incentives for utility customers to produce part of their own energy through "self-generation". Self-generation is electrical generation technology installed on the customer's site that provides electricity for part or all of a customer's electric needs. Greater incentives are provided for super clean technologies, and use of renewable fuels, such as digester gas and landfill gas.

The Self-Generation Incentive Program is administered by each of the IOUs. It provides a financial incentive for the installation of new, qualifying self-generation equipment installed to meet all or a portion of the electric energy needs of a facility. The Self-Generation Incentive Program complements the existing CEC Emerging Renewables Buy-Down Program, which traditionally provides incentive funding to smaller renewable self-generation units (less than 30kW), by providing incentive funding to larger renewable and non-renewable self-generation units up to 1.5 mega-watts (MW) in size. However, the incentive will only be granted on the first 1 MW of generating capacity of systems larger than 1 MW. Self-generation systems must be at least 30KW in size to be eligible for the rebate. Rebate incentives vary according to the technologies. Renewable technologies including PV, fuel cells operating on renewable fuel, solar thermal and small wind turbines are eligible for $4.50 per watt, up to half the cost of the system. Other non-renewable technologies are eligible for rebates of $1.00 - $2.50 per watt. For more information on the Self-Generation Incentive Program, contact your IOU :

Pacific Gas & Electric
Self-Generation Incentive Program
P.O. Box 770000
Mail Code B29R
San Francisco, CA 94177
http://www.pge.com/selfgen/
(800) 555-7794

San Diego Regional Energy Office (for San Diego Gas and Electric)
Mike Magee, SELFGEN Program Manager
http://www.sdenergy.org/selfgen
(619) 595-5634
selfgen@sdenergy.org

Southern California Edison
http://www.scespc.com/sgip.nsf
(800)736-4777

Southern California Gas Company
http://www.socalgas.com/business/cash_for_you/self_generation.shtml
(800) GAS-2000

Renewable Energy Production Incentive

Authorized under section 1212 of the Energy Policy Act of 1992, the federal Renewable Energy Production Incentive (REPI) provides incentive payments for electricity produced and sold by new qualifying renewable energy generation facilities. Eligible electric production facilities are those owned by State and local government entities (such as municipal utilities) and not-for-profit electric cooperatives that started operations between October 1, 1993 and September 30, 2003. Qualifying facilities are eligible for annual incentive payments of approximately 1.8 cents per kilowatt-hour for the first ten year period of their operation, subject to the availability of annual appropriations in each Federal fiscal year of operation. Criteria for qualifying facilities and application procedures are contained in the rulemaking for this program. Qualifying facilities must use solar, wind, geothermal (with certain restrictions as contained in the rulemaking), or biomass (except for municipal solid waste combustion) generation technologies. For more information, visit http://www.eren.doe.gov/power/repi.html, or contact Larry Mansueti at the U.S. Department of Energy: (202) 586-2588.

FINANCING RENEWABLE ENERGY SYSTEMS

With the installation of renewable energy systems — especially when accompanied by other energy efficiency measures — the public sector can use avoided energy costs to repay the loan. Some jurisdictions have found that avoided energy costs are greater than the amortized cost of the system. For example, in 2001, Alameda County saved over $400,000 at the Santa Rita Jail, where 1.16 MW of PV and several energy efficiency technologies were installed on the roof. Savings to the County (and taxpayers) are expected to total $15 million over the life of the system.

The selection of low-interest, long-term financing options for renewable energy systems is plentiful. State agencies including the California Energy Commission and Department of General Services are offering financing at historically low rates. The California Consumer Power and Conservation Financing Authority and the State Treasurer's Office expect to issue bonds to finance municipal renewable energy projects. Currently, the CEC is offering energy-efficiency loans at a fixed 3% rate for cities, counties, special districts, schools and hospitals. Financing entities like California Communities and Rural Alliance, Inc. are offering financing with fewer restrictions, longer terms, but slightly higher rates. Many of these options are summarized in the CEC's "Institutional Financing Options for Renewable Energy Systems" fact sheet — available in **Appendix C** and at http://www.energy.ca.gov/renewables/marketing/2001-10_INSTITUTION_FINANCE.PDF. Alternatively, funds for distributed generation can be raised locally by floating revenue bonds, similar to the $100 million bond passed by referendum in San Francisco in November 2001. The options are discussed below. Additional financing assistance is available through the Renewable Energy Development Institute by calling (707) 459-1256.

California Communities' CaLease Finance Program for Alternative Energy

The CaLease program provides public agencies with the ability to finance real property, equipment or other capital projects without the expense or complexity of traditional bond issue. Utilizing the same approach as the CaLease Equipment Lease Program, the intent of the alternative energy program is to privately place all PV system financing for local government and school districts in California. With the institution of this program, the League of California Cities and the California State Association of Counties can offer to its membership a cost-effective finance program for alternative energy.

Under the program, participating cities, counties and/or school districts enter into a Master Lease Agreement with CaLease Public Funding Corp. to establish the repayment obligation. Current market conditions dictate a fixed tax-exempt rate of approximately 5.35% to 5.85% for a ten-year lease term. The term of the lease is a maximum of ten years with a minimum finance amount of $250,000, and subject to credit approval.

Please contact James Hamill, California Communities Program Manager, at (800) 635-3993 ext. 16 to inquire about current rates, or visit http://www.cacommunities.com. The CaLease rate-term information is included in **Appendix D**.

Rural Alliance, Inc. Alternative Generation Financing

Rural Alliance, Inc. (RAI) is a 501 c (3) corporation formed in 1999 at the behest of the Regional Council of Rural Counties. RAI offers low cost capital for alternative energy generation such as microturbines, solar PV, solar thermal, wind energy and fuel cells. RAI's financial team can tailor a financing package to meet your needs by offering lease options, purchase and tax-exempt funds for qualified borrowers. **RAI does not require feasibility studies, project qualifications or matching funds.** Current rates are approximately 5.15% to 5.9% for terms up to 20 years and a minimum finance amount of $10,000.

For more information on RAI, contact Linda Mott Jones, Special Projects Coordinator, at (916) 447-4806 ext 127 or lindam@rcrcnet.org. Additional information and rate-term information is included in **Appendix E.**

Revenue Bonds

Revenue bonds can be issued by jurisdictions wishing to finance renewable energy systems. Revenue bonds are repaid by the avoided energy costs over the life of the energy system; the bond does not increase taxes. In November 2001, the City of San Francisco passed a $100 million revenue bond to finance 40 megawatts (MW) of clean power from solar and wind generation. Green Peace's Clean Energy Now Campaign is working on a pamphlet to help other communities model San Francisco's success. For more information on this campaign, contact JP Ross at (415) 255-9221 ext. 309 or jp.ross@sfo.greenpeace.org. For more information on the San Francisco bond, visit http://www.votesolar.org.

TOOLS FOR ECONOMIC ANALYSIS

Cost-effectiveness of a PV system can not be solely determined by its "Simple Payback". It is important to consider long-term energy costs (with and without price escalation) and to compare these against the amortized cost of the PV system. Often, a comparison of cost per kilowatt hour (kWh) of a PV system against cost per kWh of current and future non-renewable grid-sourced electricity. This kind of life cycle costing analysis can shed light on economic and environmental benefits that may not be reflected in standard accounting procedures. The State of California's Standard Practices Manual may be an effective tool to help with green accounting; contact Alison Pernell (apernell@lgc.org) for a copy of this document. With the growing uncertainty of future electrical utility rates, merely being able to "lock in" energy costs for 30 years provides great benefit to local governments, allowing them to budget for fixed costs, rather than the unknown. Several free tools are available to aid in analyzing the economics of PV. The first step, prior to using any of these tools, is to locate your annual electric consumption and/or cost for the facility in question. You may need to consult recent utility bills.

PV Calculator Worksheet

This simple tool developed by the Renewable Energy Development Institute can provide an approximation of relative PV costs and benefits. This is a good place to start to determine projected 30-year electricity costs, approximate size of PV system to meet your electrical needs, roof space needed to support this system, cost per kilowatt hour, and simple payback.

Your current electric consumption (A) = _____ kWh/yr
Your current electric bill (B) = $ _____ / year
Projected 30-year electricity cost:
• with no price escalation: B x 30 years x 1.00 = $_____
• with 1% price escalation: B x 30 years x 1.16 = $_____
• with 5% price escalation: B x 30 years x 2.20 = $_____
Amount of PV energy (C) needed to meet your annual electric load:
A_____ ÷ annual sun hours _____ hr/yr = C _____ kW
Enter your "full sun hours," which range from 1,500 hr/yr in Northern CA to 1,750 hr/yr in Central CA to 2,000 hr/yr in Southern CA
Amount of unobstructed south access area needed to generate that load:
100 sq. ft. / kW x C _____ = _____ sq. ft.
Your Net Cost after Buydown:
PV Cost $_____ – Buydown $_____ = Net Cost $_____
PV Cost ranges from $6,000 to $12,000 per kW;
Buydown is 50% of cost up to a maximum of $4,500/kW
Your Cost per kWh: Net Cost $_____ ÷ (A x 30 yrs) = $_____ / kWh
To determine the "Simple Payback" of this PV system:
Net Cost $_____ ÷ 30-year electricity cost (with or without escalation) = D_____
How long it will take to pay back the system cost: D x 30 = ____ years

Energy Partnership Program

The CEC's Energy Partnership Program (EPP) identifies cost-effective energy efficient systems and provides design and implementation assistance for public-sector projects. The EPP can provide a boost to your project by paying the first $10,000 toward experienced engineering consultants. They can conduct energy audits or feasibility studies to justify implementation. They can also identify state loans and other financing to get these projects installed. A summary of the EPP is available in **Appendix F** and at http://www.energy.ca.gov/efficiency/partnership/BROCHURE.PDF.

Clean Power Estimator

The Clean Power Estimator is an on-line economic evaluation software program developed by the CEC's Consumer Energy Center. The program provides electric customers a personalized estimate of the costs and benefits of investing in a PV or small wind generation system. The CPE takes in to account electrical rates based on zip code, and calculates system cost based on rebate eligibility. The CPE is recently upgraded and can calculate and graph annual and monthly energy consumption and production, net cash flow (costs and savings), and more. See **Appendix G** or visit the Clean Power Estimator online at http://www.consumerenergycenter.com/renewable/estimator.

Software Resources

The following software resources for economic analysis and energy modeling are available:

Building Life-Cycle Cost Software is available from the U.S. Department of Energy Federal Energy Management Program. This software allows one to look at future energy costs, making assumptions about energy escalation rates, energy consumption, and to help with 30-year energy cost-projections. For more information, visit http://www.eren.doe.gov/femp/techassist/softwaretools/softwaretools.html.

Building Energy Software Tools Directory **is available through the U.S. Department of Energy. The directory contains over 220 energy software programs to aid in energy modeling. Visit the web site at** http://www.eren.doe.gov/buildings/tools_directory**.**

RENEWABLE ENERGY PROCUREMENT STRATEGIES

Local governments, special districts and schools that will be installing PV within the next five years play an important role in shaping California's energy future. While there are a variety of procurement options available – including issuing project specific RFPs or contracting with an energy service company – the public sector is well positioned to transform the renewables market by aggregating at the state level. At this critical point in the PV industry, it is important to coordinate public purchases of PV and other renewables in order to avoid competition among public entities for scare PV resources and possibly driving up their cost. Local governments can instead look to aggregate their demand to encourage industry development to meet that demand and to in turn reduce their cost. As discussed below, the California Consumer Power and Conservation Financing Authority has issued an RFP for 80 MW of PV on behalf of the public sector, and is working closely with other state agencies to make turn-key systems available to local government entities.

Regardless of the procurement method chosen, it is important for local jurisdictions to consider whether they want to purchase turn-key systems or system components. In general, the price for system components is lower than a packaged system, however system design, engineering, and labor costs are likely to overshadow the savings on hard costs. Simply put, a custom system costs more to purchase and install. It is not uncommon for soft costs to exceed 50% of total installed cost; this can can be lowered considerably if there is an opportunity to standardize design any portion of the design. Standardization and/or modular design plays an especially important role in reducing the cost of municipal PV systems.

Additional procurement support for municipal utilities may be available through the Public Policy Renewable Energy Action Team (PPREAT). PPREAT is a new collaboration of California municipal utilities aimed at utilizing renewable resources to help ensure the continued competitiveness of public power in the face of changing electricity markets. PPREAT aims to support the Public Power system in California with advice and information to facilitate the development of utility scale renewable based electric generation projects that reduce risk and stabilize electric system costs. Ultimately, PPREAT will develop long-range green power procurement strategies that can compete head-to-head with traditional power plant development proposals. PPREAT is administered by the Center for Resource Solutions (CRS).

PPREAT needs participation from a wide variety of public power agencies to be a success -- participation in the group is voluntary and costs nothing. Any municipal utility with an interest in expanding its ability to evaluate the business rationale for using renewables is invited to participate. PPREAT participants designate a point person for coordinating with the group. PPREAT activities are relevant for a wide variety of utility activities, from resource planning and transmission access to public relations and strategic planning. For more information about PPREAT, contact Kirk Brown at CRS: kirkbrown@resource-solutions.org, or (415) 561-2100. Visit PPREAT on the web at www.resource-solutions.org/CRSprograms/publicppreat.html.

The following are procurement options for the public-sector:

The California Consumer Power and Conservation Financing Authority

The California Consumer Power and Conservation Financing Authority (Power Authority) has issued three Request for Bids (RFB) for distributed energy systems — one for solar photovoltaics (PV), one for stationary fuel cells, and one for microturbines. During the period 2002 – 2005, the Authority and other public entities intend to issue RFPs for site-specific Distributed Solar (DS) projects using the Decentralized Solar Bid Pool established by the Request for Bid (available at http://www.capowerauthority.ca.gov/). Through an inter-agency collaboration between the Department of General Services, the Power Authority, the Energy Commission and the State Treasurer's Office, the Power Authority intends to purchase and install up to 80 MW of DS power at public sites during the same period using at least two Master DS Contracts. This collaboration is working to develop the infrastructure and long-term installation and procurement services for state and local building projects. In addition, the Power Authority intends to issue RFPs for DS equipment purchases on an as-needed basis. Overall, the Power Authority hopes to stimulate an increase in manufacturing and sale of DS material in California as well as increase the role of renewable resources and cleaner, more efficient generation technologies by providing leadership through installations in State buildings and promoting capacity and cost-effective prices for purchase and installation by other public entities.

The Power Authority recognizes the critical role that local governments and schools play in identifying potential sites for PV, fuel cell and microturbine installation over the next several years, and is working to determine the total demand for PV for California cities, counties, schools and special districts. **The Power Authority is currently working with the Department of General Services to develop Master Agreements, under which local governments can purchase PVs from the State at reduced government prices. If your jurisdiction is interested in participating in an aggregated state-wide purchase of PV, or is able to commit to continued PV purchase over the next two to five years, please contact Alison Pernell at the Local Government Commission** (apernell@lgc.org, (916) 448-1198). For more information on the California Power Authority, visit http://www.capowerauthority.ca.gov/.

California Mulitiple Award Schedule (CMAS) Unit, California Department of General Services (DGS)

The California Department of General Services' Procurement Division is the State of California's central purchasing and materials management agency. The Procurement Division is responsible for the competitive bidding process, the pre-qualification of bidders, the maintenance of a State bid list, the use of non-restrictive product specifications and resolving supplier protests.

The California Multiple Award Scholarship (CMAS) Unit establishes agreements with those manufacturers/suppliers that offer products and/or services which are currently on an existing multiple award schedule with the Federal General Services Administration (GSA) or other approved multiple award contract**. The program enables California State agencies and local government agencies, under delegation from DGS, to streamline purchases by removing**

repetitive, resource intensive, costly and time consuming bid processes. The CMAS Unit currently offers pre-packaged PV systems.

Any city, county, city and county, district, or other local governmental body or corporation, including the California State University (CSU) and University of California (UC) systems are eligible. Local government agencies are not subject to the CMAS maximum order limits, but should make a determination of order limits that are consistent with their own policies and procedure. Local government agencies are subject to the Not Specifically Priced (NSP) Items dollar limits. Local government agencies use their own purchase order forms (in lieu of the State's STD. 65 Contract Delegation/Purchase Order Form), and issue it directly to the CMAS contractor via mail or facsimile. DGS will bill each local government agency for use of CMAS contracts equal to 1.21 percent of the total value of each purchase order.

DGS contracts directly with suppliers that offer government pricing schedules. New contracts can be initiated by having the supplier contact the CMAS Unit directly. New contracts can also be adapted from the Federal GSA schedule. **The GSA schedule currently offers pre-packaged PV systems.** Visit http://www.fss.gsa.gov/environ/h2o-energy-prod.cfm#solar to view the solar technologies available through GSA. If your local government is interested in pursuing new contracts through the CMAS Unit, contact the unit directly to inquire in detail about the process.

For more information on the CMAS Unit, visit http://www.pd.dgs.ca.gov/ or call (916) 324-8045. To download a copy of the "Smart Government Starts Here" local government agency packet, visit http://www.pd.dgs.ca.gov/org/locagypck.pdf

Going Out to Bid with Request for Proposals

Local governments have the option of issuing their own RFPs and RFQs for the design, purchase and installation of renewable energy systems. Many municipalities – including the City of Santa Monica, City of Santa Cruz, City of San Jose, and County of Alameda – have successfully contracted with energy companies for municipal installations following issuance of an RFP and/or RFQ. An RFP can cover an entire spectrum of services — including site assessment, system design, financing, installation, and energy management systems/software. Municipalities that want to farm out the entire job may want to consider contracting with a system integrator that can do everything from public relations to financing to installation. A locality may wish to contract with an energy consultant or installer for a narrower scope of work, limited to system design and installation.

The City of Santa Cruz and the County of Alameda have used RFPs to identify the best candidate by weighing factors such as past experience and ability to serve the public-sector, without awarding the contract to the "lowest bidder." The California Government Code allows for sole sourcing, whereby a municipality can award a contract to an entity other than the lowest bidder if it is determined that the contractor provides a unique service. Check with your city's, county's, or special district's attorney to determine whether sole sourcing is an appropriate option for your community (see discussion under "Installation and Technical Assistance").

Buying Cooperatives

A number of buying cooperatives throughout the state and the nation can provide grass-roots aggregated procurement of PV and wind systems. Some cooperatives offer a service component that includes system design, installation by pre-qualified local professionals, and system monitoring. In addition, cooperatives can provide administrative services including refund reservation and fulfillment, permit approval processing and local utility approval. This method of procurement may be appealing to public-sector entities that could benefit from the full spectrum of technical and administrative assistance. Most cooperatives require membership. Check with your city's, county's, or special district's attorney to determine the legality of this option.

Cooperative Community Energy is a PV buying cooperative located in Marin County, with satellite offices in Sonoma and Santa Cruz County. CCEnergy is a network of qualified professionals that can serve customers in all areas of California. CCEnergy provides a full spectrum of technical and administrative functions. To learn more about how CCEnergy might serve your municipality or to inquire about membership fees, contact Dan Pellegrini, CEO and President, for more information: pilgrim@dnai.com or (415) 256-1748.

Third Party Providers and Leasing Agreements

There are a number of companies around the state to help large energy customers convert to renewable energy sources **without having to pay initial or ongoing costs for a new energy system.** Third party providers can contract with municipal customers to design, finance, purchase, install, and monitor renewable energy systems. The provider retains ownership of all or a portion of the system and profits by selling power to the host site at a set rate, under a multi-year contract. Third party providers will enter into a Interconnection Agreement with the local utility to address terms and conditions, grid connectivity, and net metering arrangements. **Municipal customers can benefit from a reduced electric rate for the renewable portion of their power, from free "green" publicity at no cost, and by hosting a renewable energy system without being burdened by details of financing and procurement!** There are significant benefits to contracting with a third party, as the consumer merely buys the electricity from the system with no capital cost and no operating liabilities. The third party provider is a good option for the rapid installation of solar PV for the public sector. With the private investors taking advantage of the tax benefits and rebates, where the local governments cannot, it makes for a good marriage of public and private alliances.

Several leasing companies offer "synthetic leases" that combine a leasing approach with the lease company taking the tax benefits. Generally, systems must be quite large in size to qualify for leasing. Check with individual third party providers/leasing companies to determine whether your system would be large enough to qualify. Contracting with a third-party provider is well suited for large energy consumers in energy markets where current and future cost for displaced energy is relatively high.

Leasing agreements may be negotiated directly with manufacturers to provide distributed generation systems, as is being done by the City of Vallejo. The City is contracting with BP

Solar for a1 MW PV power plant and with TMA Inc., a wind power company based in Cheyenne, WY, for a 500 MW wind farm. The City is contributing 10 acres for the PV plant and obtaining a $3.75 million grant from the California Energy Commission. BP Solar, a division of the international energy giant BP Amoco, will donate $3.75 million in construction and equipment costs and will install the $7.5 million modular power plant at no cost to the city, contingent upon the city's acquisition of the $3.75 million rebate incentive. BP Solar and the City will divide revenue from power sales in a ratio to be determined. According to Larry Asera, the City's energy consultant, Vallejo's venture will be the first public- private partnership of this magnitude in the country. Financial benefits to BP Solar accrue in the form of depreciation and tax credits, along with revenues from power resale. This project allows the company to increase production, lowering component costs and ultimately making the price more attractive to potential future customers.

Because each of the energy companies provide a unique scope of services, the best thing to do is to simply call them and inquire about how your community might benefit from a public-private partnership. Each of the following companies is very interested in working with public sector renewable energy projects:

Alten Corporation has been serving California's solar energy needs for the past 25 years. With over 1,000 solar heating systems installed on over 500 separate locations throughout California, Alten is the largest solar micro-utility in California and perhaps the entire U.S. A recognized pioneer in the solar energy field, providing continuous service to multifamily apartment complexes, college dormitories, hospitals, commercial laundries and other large users of hot water, Alten Corporation is now offering PV systems along with long-time solar domestic hot water systems. For more information contact (818) 503-1200 ext. 112 or visit http://www.altenenergy.com.

NORESCO can provide customized technical solutions and innovative financing arrangements to help state and local government agencies overcome financial, operational and organizational barriers impeding process efficiency improvements and upgrades. Professional services include conceptual strategic design, turn-key design, development and construction, energy distribution infrastructure services, commodity procurement and environmental benefits. For more information contact Dick Good at (916) 366-7180, dgood@noresco.com, or visit http://www.noresco.com.

PFG Energy Capital provides financing for the acquisition of capital assets and related services for state & local governments. PFG Energy Capital has provided financing for numerous energy related projects for federal, state and local governments that vary in both size and scope. Their programs include financing for the design, installation labor and equipment costs of each project. Therefore, little or no up front investment is needed for a jurisdiction to realize the benefits of a project. For more information, contact Bill Garnet at (626) 584-0184, wgarnett@pfgenergy.com or visit http://www.PFGenergy.com.

Solar Commercial Roofing and Renewable Power Group are subsidiaries of the Southern California Roofing Company. They provide solar PV micro-utility services to large commercial and municipal clients as part of their comprehensive roof care program. Solar Commercial Roofing can integrate PV technology into traditional roofing systems, provide comprehensive warranties, and provide maintenance through their services division. Under the micro-utility

program there is no customer cost or operation responsibility. Rather, the customer purchases the solar portion of their power from Renewable Power Group at a set rate, under a multi-year contract at a rate less expensive than the local utility. For more information, contact Ed Borray, Executive Vice President at (800) 537-1402, microutility@aol.com, or visit http://www.solarcommercialroofing.com.

World Energy Services and Technologies (WEST) can offer financing and energy-related services to local governments. For more information, contact Rich Volker at (619) 299-6091.

INSTALLATION CONSIDERATIONS

The public sector can contract with a variety of entities for installation and/or procurement of distributed generation systems — including cooperatives, third-party providers, system integrators and individual consultants. The California Power Authority and DGS expect to offer an installation package to local government PV purchase contracts sometime in 2002. Regardless of the type of installer chosen, local government can be involved in installation at many levels. For example, Alameda County utilized the expertise of their engineer, Matt Muniz, P.E. to oversee installation of the 642 kW rooftop PV installation on the Santa Rita Jail (installed under contract with the PowerLight Corporation). The City of Santa Cruz contracted with an energy consultant to oversee the entire process of a 14 kW rooftop PV system design and installation on the City Hall Annex. A middle school in Alameda partnered with a local non-profit organization to organize a community-based installation workshop. While larger installations may lend themselves to "farming out" the job, a small demonstration project might be the perfect opportunity to use in-house expertise or to hold a city/county sponsored installation workshop.

The California Government Code provides for sole sourcing if there is a unique service or commodity provided by that bidder. Under this code, the City of Santa Cruz and Alameda County both awarded their PV contracts to the most *qualified* bidder. Specifically, Alameda County found that their supplier's system is the only patented, Underwriters Laboratory approved, PV system that uses state-of-the-art thin film PV modules backed with R-10 rigid polystyrene foam insulation, and the supplier is the only certified Northern California-based contractor to install a such a system over 50kW. The system is also the only roof tile PV system that is certified by the CEC, and is the only PV system in the market to provide all of these benefits. Although not required for this project, GSA's purchasing agent approved a sole source justification waiver for the project. Check with your city's, county's, or special district's attorney to determine if sole sourcing is an option that will work for your municipality.

FREE TECHNICAL ASSISTANCE

The Local Government Commission (LGC) is working with the Renewable Energy Development Institute (REDI), the National Renewable Energy Laboratory (NREL), and the Million Solar Roofs Initiative (MSRI) to provide technical assistance to public sector entities pursuing renewable energy.

LGC is compiling local ordinances that support installation of renewable energy systems, as well as compiling a list of jurisdictions that have reduced or eliminated permit fees for residential and commercial renewable energy systems. LGC can assist local governments by helping to locate incentives, financing options, and procurement strategies for PV. By request, staff are available to make presentations to local elected officials, decision-makers and staff about the opportunities and benefits of renewable energy. LGC's Energy Hotline is available toll-free to request copies of documents or to request additional assistance at (800) 290-8202. Additional documents supporting public-sector PV installation can be found at http://www.lgc.org/spire.

The National Renewable Energy Laboratory (NREL) can provide assistance with site analysis and feasibility studies. A leader in energy efficiency and renewable energy research, NREL can

perform economic and environmental analysis of local government renewable energy projects. To inquire about this opportunity, contact Alison Pernell at the Local Government Commission at (916) 448-1198 ext. 324, or apernell@lgc.org.

For a limited time only, the Renewable Energy Development Institute (REDI) is able to provide FREE technical & financial assistance through a grant from the California Energy Commission's Renewable Energy Consumer Education Fund. REDI has assisted energy consumers nation-wide for over a decade by evaluating the technical and financial benefit of using solar, wind and biomass energy sources. Contact Keith Rutledge at REDI at (707) 459-1256 for more information.

Additional assistance can be provided through the CEC's Energy Partnership Program. This program helps local governments identify and install energy-saving projects and will pay the first $10,000 of engineering costs. They are able to provide a preliminary assessment of facilities at no cost, and can share the cost of engineering consultants who can help with energy audits, engineering feasibility studies, preparing equipment performance specifications, and selecting Energy Service Companies (ESCOs) and other contractors. The CEC's technical staff can provide information on project and funding options at no cost, and can even assist in preparing presentation before governing boards. A summary of the program can be found in **Appendix F**. To find out more about the Energy Partnership Program, contact the CEC at (916) 654-4008 or visit http://www.energy.ca.gov/efficiency/partnership/.

Workshops

In February, 2002, the Local Government Commission, SMUD and the Governor's Office of Planning and Research, along with many other co-sponsors, offered two Photovoltaic Forums in Sacramento. Local and State government officials, financing experts, staff from cities and counties that have installed PV systems, and representatives from the California Energy Commission, California Power Authority and California Public Utilities Commission were in attendance. LGC hopes to offer additional workshops in spring/summer of 2002.

The City of San Jose and San Diego Regional Energy Office also hold workshops on PV and distributed generation. To check on upcoming workshops in San Jose, contact Darren Bouton, Green Building Program Coordinator at (408) 277-4670 or visit the Green Building home page at http://www.ci.san-jose.ca.us/esd/GB-HOME.HTM and check out the green building lecture series. To learn about workshops in the San Diego area, contact Scott Anders at (619) 699-0725 or visit http://www.sdenergy.org/events/ for a listing of regional energy events.

The Sacramento Municipal Utility District's (SMUD) Energy and Technology Center hosts ongoing energy efficiency and renewable energy workshops. For a listing of events call (888) 742-7683 or visit http://www.smud.org/etc/programs/calendar.html.

APPENDIX A — Solar Photovoltaic Fact Sheet

http://www.energy.ca.gov/renewables/marketing/2000-05_PV_FACTS.PDF

APPENDIX B — Generate Your Own Electricity and Save

http://www.energy.ca.gov/renewables/marketing/2001-03_BUYDOWN_FLYER.PDF

APPENDIX C —Institutional Financing Options

http://www.energy.ca.gov/renewables/marketing/2001-10_INSTITUTION_FINANCE.PDF

APPENDIX D — CaLease Finance Program for Alternative Energy

CALEASE FINANCE PROGRAM FOR ALTERNATIVE ENERGY

Utilizing the same approach as the CaLease Equipment Lease Program, the intent of alternative energy program is to privately place all Photovoltaic System ("PV") financings for local government and school districts in California. With the institution of this program, the League of California Cities and the California State Association of Counties can offer to its membership a cost-effective finance program for alternative energy.

Under the program, participating cities, counties and/or school districts would enter into a Master Lease Agreement with CaLease Public Funding Corp. to establish the repayment obligation.

Current market conditions would dictate a fixed tax-exempt rate of approximately 5.35% to 5.85% for a ten-year lease term. The term of the lease is a maximum of ten years with a minimum finance amount of $250,000, and subject to credit approval.

Please contact James Hamill at (800) 635-3993 ext 16 with any questions or to request an application.

APPENDIX E — Rural Alliance Financing for Alternative Energy Systems

Rural Alliance, Inc.
801 12th Street, Suite 600
Sacramento, CA 95814
916-447-4806 FAX 916-448-3154

Rural Alliance, Inc. is proud to announce the availability of equipment lease financing for tax-exempt entities and commercial business.

All rates are as of October 31, 2001, and are subject to change. Please contact Linda Mott Jones or Marcia Basque, 916-447-4806, to verify current rates. Each lease is subject to a $250 processing fee. For longer lease terms and specific needs please contact us to discuss your needs.

MUNICIPAL

Transaction Size	*$10,000 to $250,000*				
Term		3 Years	5 Years	7 Years	10 Years
Rate		5.50%	5.55%	5.65%	5.85%

Transaction Size	*$250,000 and Up*				
Term		3 Years	5 Years	7 Years	10 Years
Rate		5.00%	5.10%	5.25%	5.50%

Information contact: Linda Mott Jones, Special Projects Coordinator, 916-447-4806 ext. 127
email address: lindam@rcrcnet.org.

APPENDIX F — Energy Partnership Program

http://www.energy.ca.gov/efficiency/partnership/BROCHURE.PDF

APPENDIX G — Clean Power Estimator

http://www.consumerenergycenter.com/renewable/estimator/